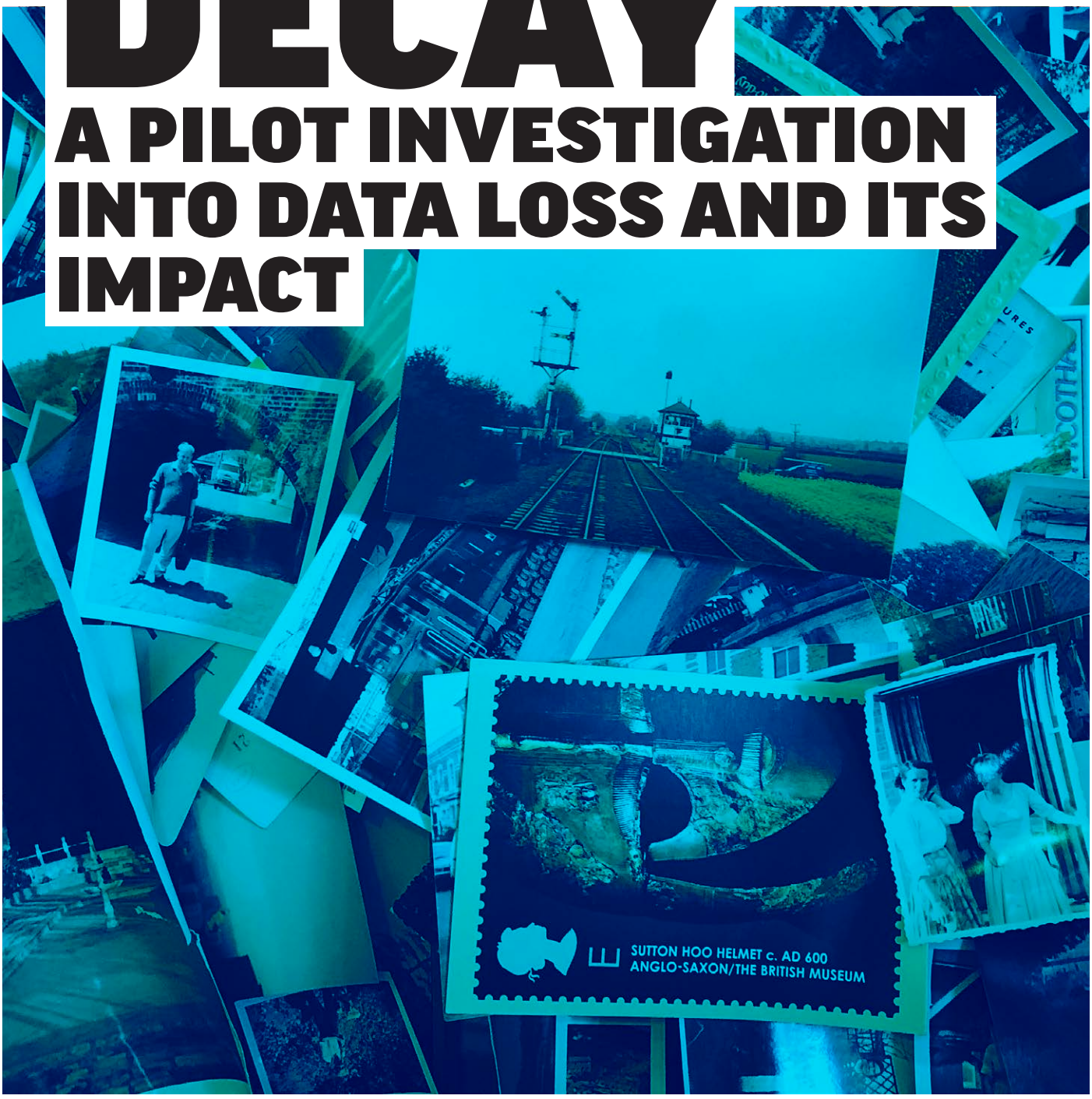
Project Hindsight

MEMORY DECAY

A PILOT INVESTIGATION INTO DATA LOSS AND ITS IMPACT



Dr Michael Weatherburn

September 2020


0
2011
2012
2013
2014
Bar Chart
10
0
2011
50%
75%

CONTENTS

Project Hindsight is an independent strategy consultancy which uses bespoke research and training to clarify clients' thinking about their future. Our current focus is on evidence-based forecasting and enhancing institutional memory.

'Many practical lessons'
- Singapore Straits Times

'Helped us think more deeply about where we realistically are in terms of technology adoption'
- Vinesh Jha, CEO Extract Alpha (Hong Kong)

Contact:
www.projecthindsight.co.uk
info@projecthindsight.co.uk

Research Dr Michael Weatherburn (contact: michael@projecthindsight.co.uk)
Data Mark Cox-Smith
Design Robin Wilde Design & Creative (robinwilde.me)

INTRODUCTION AND METHODS

There are increasing claims that institutional memory is getting worse. First noted by professional archivists in the 1990s 'dot com' period (Kirschenbaum, 2013), these claims have since been explored by journalists (e.g. Cowley and Silver-Greenberg, 2017) and science fiction stories such as *Blade Runner 2049* (2017). They are now being supported by research studies, which have examined the changing texture and quality of institutional data since the turn of the century (e.g. Barata, 2004; Carroll et al, 2011; Gorsky, 2015; Weatherburn, 2017: appendix 3).

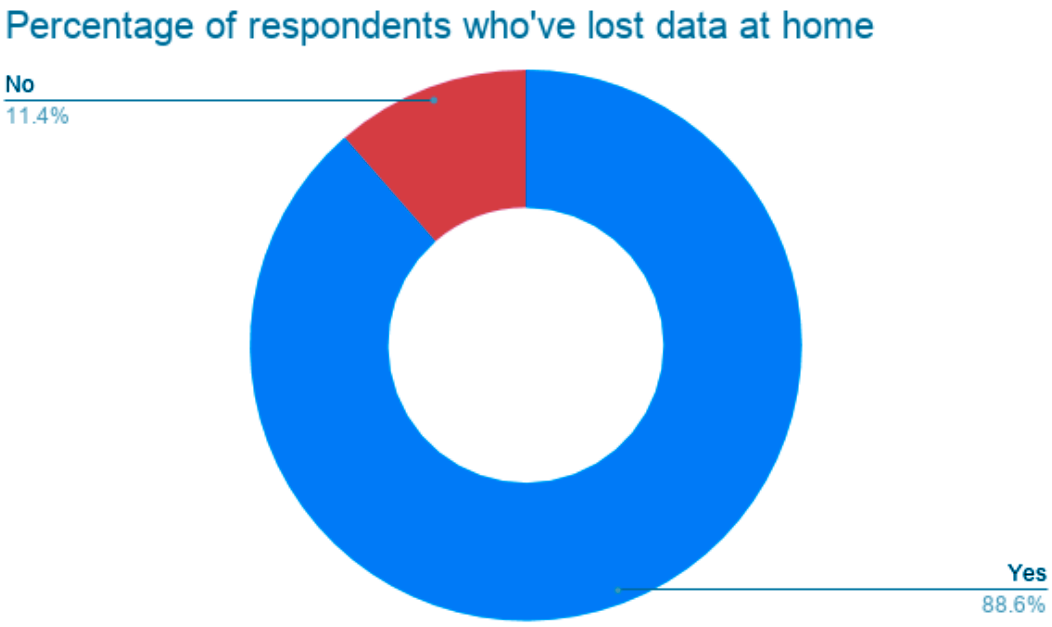
> **“ There are increasing claims that institutional memory is getting worse**

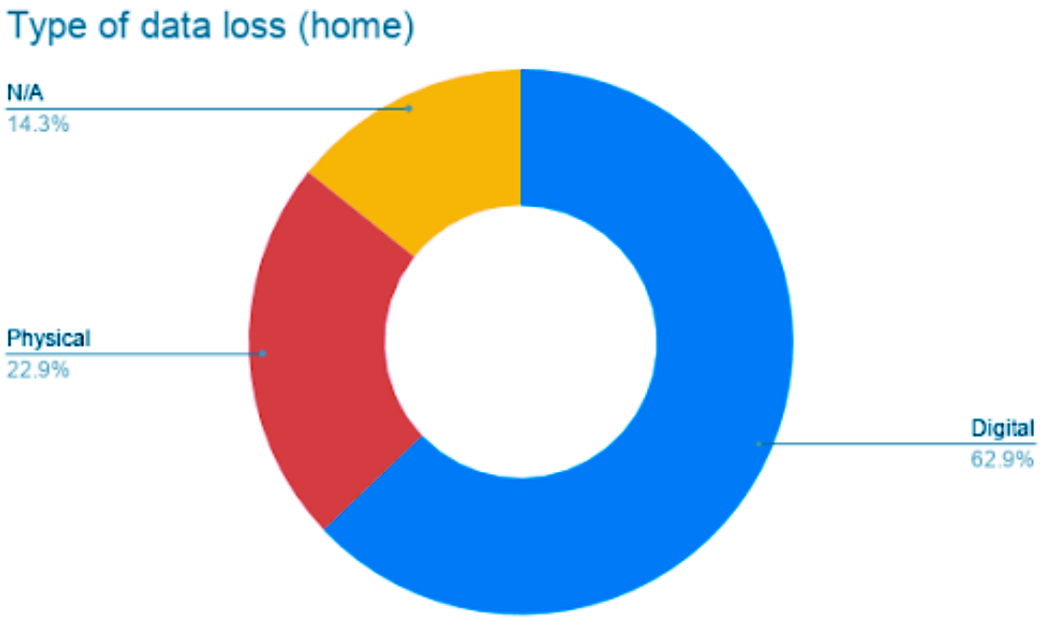
Two claims are usually made: i) that increased organisational change is damaging institutional memory (e.g. Cameron, 2016) and ii) that digital disruption has been degrading records management systems and the data on which they rely (Brainard, 2020; Hall, 2017; Pollitt, 2000; Wernick, 2018). Most UK research into this phenomenon has focused on the public sector (e.g. Corbett et al, 2018; Pollitt, 2009; Stark, 2019), with specific studies exploring factors such as employment fluidity (Sasse and Norris, 2019), outsourcing (Sasse et al, 2020), and changes in record-keeping (National Audit Office, 2018). Similar claims are made about the private sector (e.g. Business Archives Council, 2015; Delong, 2004; Mena et al, 2016).

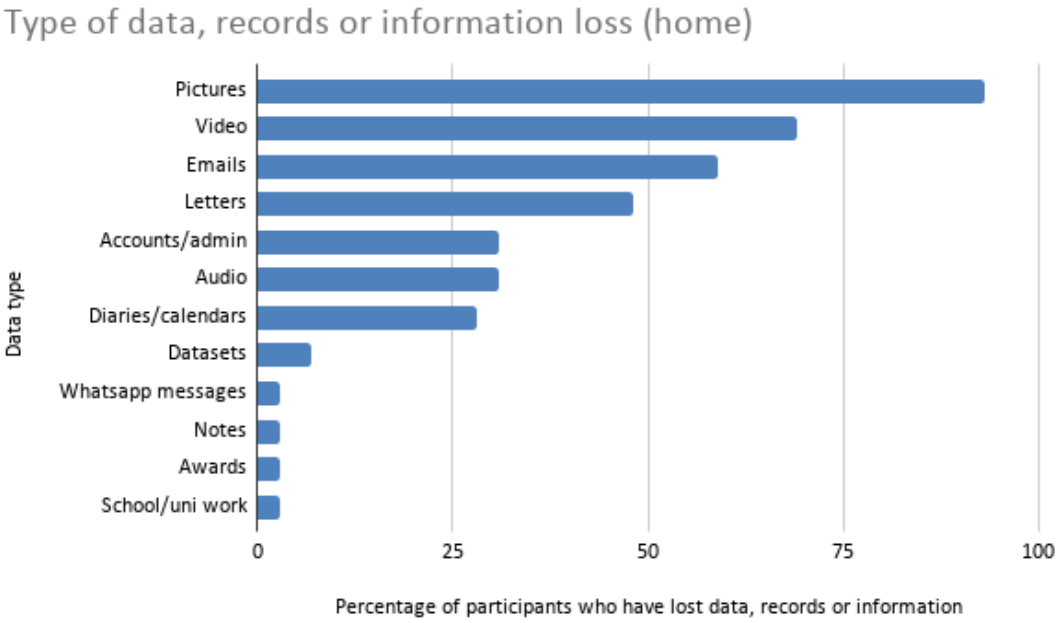
The purpose of this project was to acquire evidence, assess these claims, and to better understand how institutional memory works. Emergent research has examined how organisations successfully form collective memory (e.g. Bucheli and Wadhwani, 2014; Godfrey et al, 2016; Mai, 2015). We wanted to understand the opposite: how respondents have lost information, records and data in both their personal and working lives. In other words, if and how institutional memory can get worse. We also wanted to learn the subsequent impact, if any, of this loss, such as sentimental value, retrieval costs, or organisational malfunction. The pilot online survey was conducted via Google Forms in February 2020. Participation was voluntary and 35 participants responded. All data was gathered anonymously.

PERSONAL LIFE

Our study discovered that a substantial majority (89%) of respondents had lost information, records and data in their personal lives. Of those who had lost information, records, or data, 73% of this loss was in digital format, and 27% in physical format.







The majority causes of loss were: misplaced/lost (26%), hardware problem (17%), and accidental deletion (9%). Of respondents who had lost data in either digital or analogue format, 63% reported having never recovered at least some of it. Participants generally responded that they would pay £100-£300 to recover that lost data.

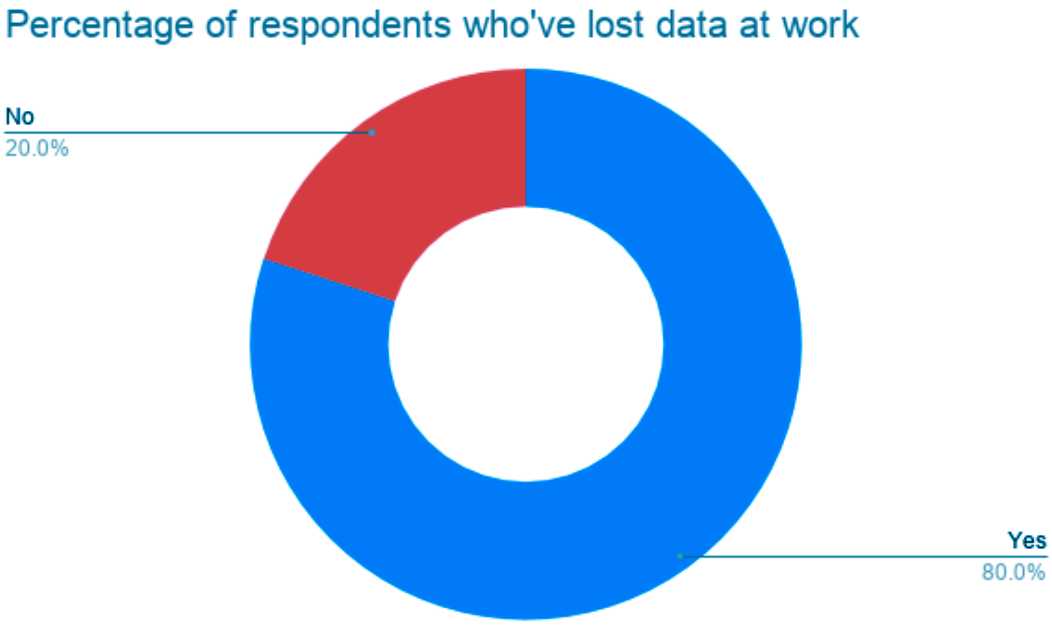
Respondents were asked to supply quotes about their most striking examples of having lost information, records and data. The responses produced some poignant recollections:

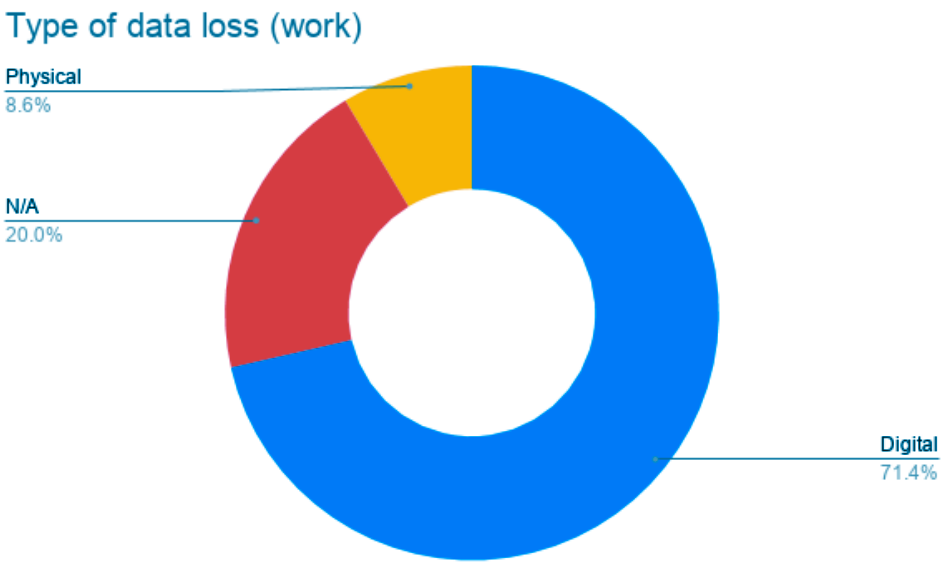
> *I lost a video of a conversation with my mother right before she died and it was a lovely vid.*
>
> *A video of my daughter dancing when she was 5.*
>
> *I lost 3 years' worth of photos of family and friends when my harddrive where I stored those broke. I realised that I rely a lot on photos to remember events in my life, and this left a gap in my memory in a way.*

Respondents were also asked to supply quotes about their most striking examples of having lost information, records and data. The following word cloud indicates the frequency of particular words in those responses:

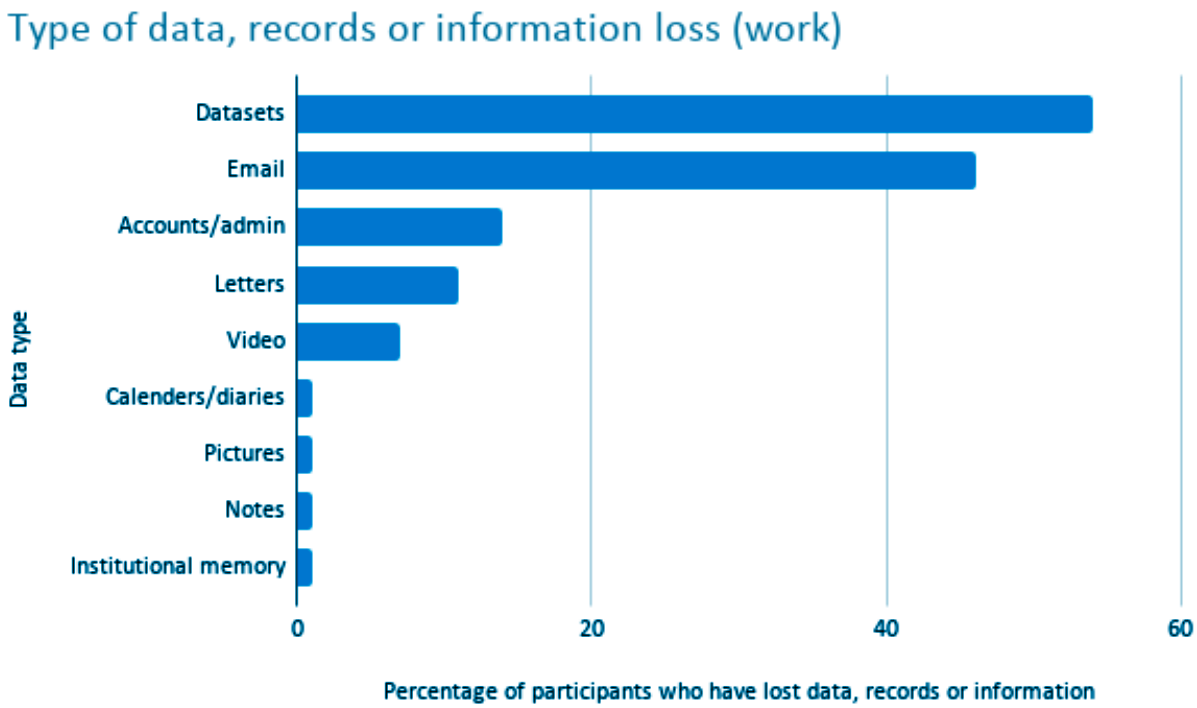
WORK

80% of respondents reported that they had lost information, records or data in the workplace. 89% of this loss was in digital format and 11% in physical format.





The following graph depicts the type of data loss:



The three main causes of workplace information, records and data loss were software problem (20%), misplaced/lost (20%) and organisational redesign/management restructure (14%).

Of those respondents who had successfully recovered information, records or data, the most frequent methods of doing so were IT support/colleagues (44%), software/hardware solution (22%) and a formal backup (22%).

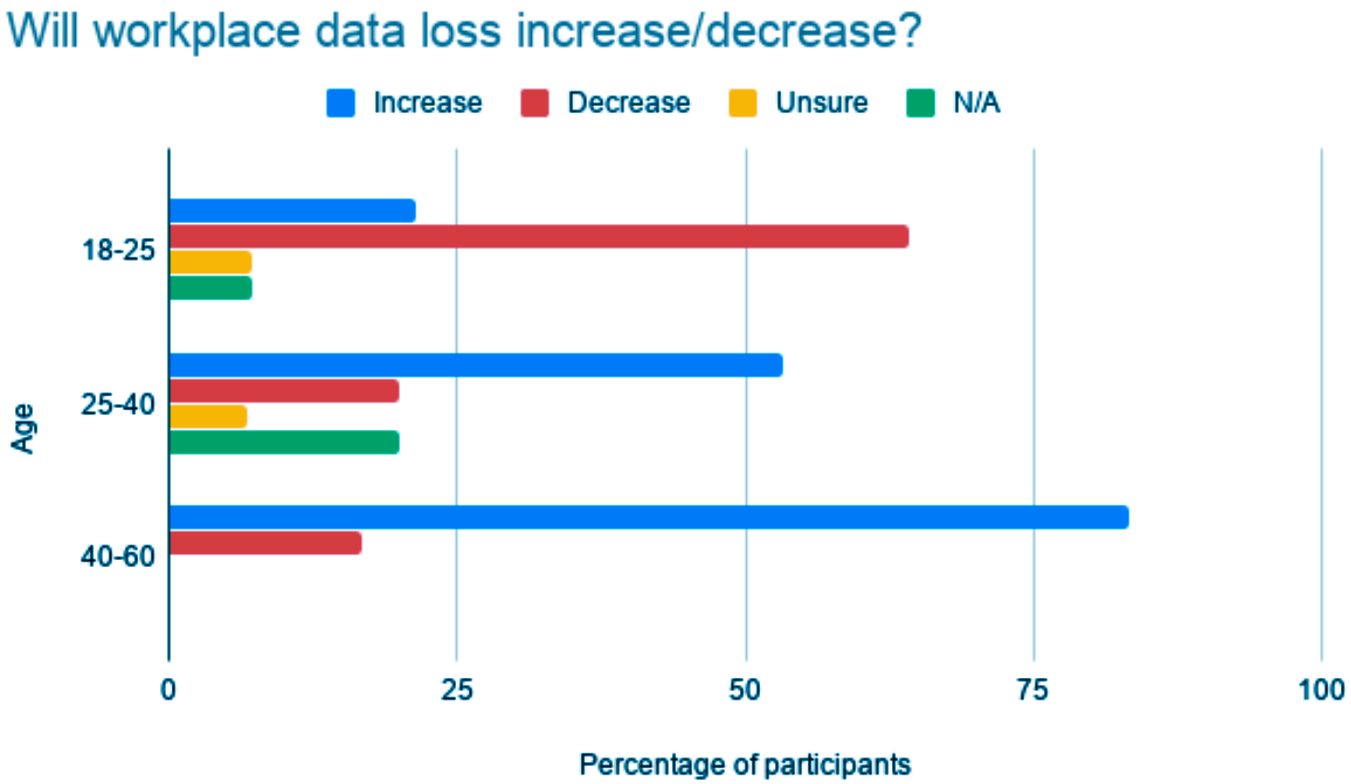
Of respondents who had lost workplace information, records or data, 68% reported some of its loss permanent. Some respondents reported a substantial 'near miss'. For example, one respondent aged 25-40 working on a $100 million project for an international charity reported the following:

> *We were unable to do a survey of our projects because we didn't know where a lot of the activities had taken place. No organized system for recording that information. Could have had serious reputational risk.*
>
> *[These issues will] increase [in the future]. Very little pressure on international organizations to manage data better. Head of knowledge management admitted it's not an organizational priority.*

GENERATIONS & THE FUTURE

Participants were asked about whether they believed information, records and data loss would increase in the future. Public and private sector employees responded very similarly, with 63% of public sector respondents indicating that these issues would increase, compared to 60% of private sector respondents.

The most striking finding of this section of this research was how different generations anticipated the future: a majority (c.60%) of 18-25 year olds predicted that workplace loss of information, records and data would decrease in the future. All other age categories predicted that information, records and data loss would increase in the future.



The difference appears to have been whether the respondent viewed digital technology as the solution or the problem. Two participants aged 18-25 contributed the following quotes:

> *[Information, records and data loss will] decrease with a more technologically educated and younger work force soon entering the work place. They will have better safeguards in place as technology was not initially foreign to them (they never had to learn it from scratch, it's common in daily life)*
>
> *[Information, records and data loss will] decrease because as digital practices continue to be introduced and grow in the work place, I believe we will be better able to prevent the loss of important information and records.*

In other words, this pilot study indicates a generational split between young people who believe that increased digitisation will reduce the loss of information, records and data, and older people who believe that increasing digitisation will cause the loss of information, records and data.

KEY FINDINGS & IMPLICATIONS

Key Findings

> **“I realised that I rely a lot on photos to remember events in my life, and [losing my photos] left a gap in my memory.**

- A substantial majority of respondents have lost information, records and data in their personal (89%) and professional lives (80%).
- In respondents' personal lives, of those who had lost information, records and data, the material lost was pictures (93%), video (69%), email (59%) and letters (48%). The workplace equivalent was dataset (54%), email (46%), accounts/admin (14%), and letters (11%).
- The three main reasons for personal loss of information, records or data were: misplaced/lost (26%), hardware problem (17%), and accidental deletion (9%).
- The three main causes of workplace information, records and data loss were: software problem (20%), misplaced/lost (20%) and organisational redesign/management restructure (14%).
- When information, records or data had been lost at work, respondents reported that immediate colleagues and professional support services were important in the retrieval process.
- In both home and work contexts, around two-thirds (personal: 63%; work: 68%) of respondents reported that some information, records or data has been permanently lost.
- The average amount respondents would pay to recover their personal data lost was £100-£300 ($128-$384)

Conclusions and Implications

Institutional memory has problems. The primary finding of this study is that information, records and data, and by extension, institutional memory, do get lost. Indeed, this is the normal experience for most people at home and at work. However, it is beyond the findings of this research to conclude that institutional memory is declining, or, building on observations by Edgerton (1997), changing at a historically unusual rate. Examination of this phenomenon would require further research.

Institutional memory decay is primarily digital loss. Data loss was substantial, in both home and work, and largely in digital format. At home, it was pictures, video and email, and at work it was dataset, email and accounts/admin.

Memory decay occurs differently in personal and professional lives. As can be expected institutional memory loss differed depending on whether respondents were being asked about their personal or professional lives. The material lost also differed, with more images and video from personal lives, and more databases and administrative records in the workplace.

Different generations see the issue differently. Respondents under the age of 25 saw digital technology as the solution to the loss of information, records and data. In contrast, older respondents primarily saw digital technology as the problem, and indeed the anticipated cause of future loss of information, records and data.

BIBLIOGRAPHY

Barata, Kimberly. “Archives in the digital age.” *Journal of the Society of Archivists* 25.1 (2004): 63-70.

Brainard, Jeffrey, ‘Dozens of scientific journals have vanished from the internet, and no one preserved them’ *Science*, 8 September 2020.

Bridle, James, *New dark age: technology and the end of the future* (2018)

Business Archives Council, *Let the right one in? Challenging perceptions of access to business archives* (2015)

Cameron, Sue, ‘Whitehall’s institutional memory gap’ (*Prospect*, Dec 2016)

Carroll, Laura, et al. ‘A comprehensive approach to born-digital archives.’ *Archivaria* 72 (2011): 61-92.

CIPD. *Workplace technology: the employee experience.* London: Chartered Institute of Personnel and Development (2020).

Cowley, Stacy and Silver-Greenberg, Jessica, ‘As Paperwork Goes Missing, Private Student Loan Debts May Be Wiped Away’ *New York Times,* 17 July 2017.

DeLong, David W., and J. Storey. *Lost knowledge: Confronting the threat of an aging workforce.* Oxford University Press, 2004.

Edgerton, David EH, ‘Ever accelerating hype’ *Prospect* (1997).

Gorsky, Martin. “Sources and resources into the dark domain: the UK web archive as a source for the contemporary history of public health.” *Social history of medicine* 28.3 (2015): 596-616.
Hall, Kat, ‘Uk.gov drowning in legacy tech’ *The Register*, 23 January 2017.

Kirschenbaum, Matthew. ‘The. txtual condition: digital humanities, born-digital archives, and the future literary.’ *Digital Humanities Quarterly* 7.1 (2013).

Mena, Sébastien, Rintamäki, Jukka, Fleming, Peter, and Spicer, André. “On the forgetting of corporate irresponsibility.” *Academy of Management Review* 41:4 (2016), 720-738.

National Audit Office, *Handling of the Windrush situation* (5 December 2018)

Sasse, Tom, Nickson, Sarah, Britchfield, Colm, and Davies, Nick, *Government outsourcing: when and how to bring public services back into government hands* (Institute for Government, 2020).

Sasse, Tom, and Norris, Emma, *Moving on: the cost of high staff turnover in the civil service* (Institute for Government, 2019)

Weatherburn, Michael. *Don’t believe the hype: work, robots, history.* (Resolution Foundation, 2017).

Adam Wernick, ‘Scientists warn we may be creating a “digital dark age” ‘ *PRI Science* Friday, 1 January 2018.


75%